

## Response to Letter Regarding Article, “Transesophageal Echocardiography in Cryptogenic Stroke and Patent Foramen Ovale Analysis of Putative High-Risk Features From the Risk of Paradoxical Embolism Database”

Response:

Schuchlenz<sup>1</sup> makes important observations that help frame the conclusions we reached through analysis of the transesophageal echocardiography data from the Risk of Paradoxical Embolism (RoPE) database and appropriately highlights some of the limitations of this data set. Specifically, important anatomic features (presence or absence of a prominent eustachian valve) were not routinely reported across the component databases. Additionally, microbubbles were routinely injected via the antecubital vein, a site that Schuchlenz<sup>1</sup> correctly identifies as correlating less well with anatomic size.

To create our RoPE database,<sup>2</sup> component studies were combined and data were harmonized with the goals of improving on the methodological and statistical limitations of small individual studies. Yet harmonization across databases creates its own challenges and necessarily excludes details that might not be uniformly collected across component studies, including some transesophageal echocardiography variables. Our observation that proposed that high-risk transesophageal echocardiography features do not correlate with the significance of an observed patent foramen ovale for patients with cryptogenic stroke<sup>3</sup> should be viewed not as a failure of the imaging modality as ideally applied. Instead, we view it as a call for further refining the technique, improving standardization and conducting further research, and as a call too for development of complimentary techniques to better assess risk.

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### Disclosures

Drs Kent and Thaler have consulted for WL Gore Associates. Dr Thaler is a consultant to AGA Medical Corporation. The other authors report no conflicts.

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